REMARKS/ARGUMENTS

The Office Action mailed July 3, 2003 has been reviewed and carefully considered. Claims 1-5 are canceled. Claims 6, 7, 8, 9 have been amended. Claims 16-17 are added. Claims 6-17 are pending in this application, with claims 6 and 7 being the only independent claims. Reconsideration of the above-identified application, as herein amended and in view of the following remarks, is respectfully requested.

In the Office Action mailed June 17, 2002, the Abstract of the Disclosure is objected to as being longer than one paragraph. A substitute Abstract is attached hereto on a separate page to correct the problem identified by the Examiner. In view of the new Abstract, it is respectfully requested that the objection to the specification now be withdrawn.

Claims 6-7 and 12-15 stand rejected under 35 U.S.C. §103 as unpatentable over DE 35 23 610 (Gudymov) in view of U.S. Patent No. 4,188,915 (Kummel). Claims 8-11 stand rejected 35 U.S.C. §103 as unpatentable in view of Gudymov and Kummel in further view of U.S. Patent No. 2,231,295 (Price).

Claims 6-15 stand rejected under 35 U.S.C. §103 as unpatentable over co-pending application No. 09/726,826 in view of Kummel.

Claims 6-15 stand rejected under 35 U.S.C. §103 as unpatentable over co-pending application 09/842,224 in view of Kummel.

Claims 6-15 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting over claims 1-13 of co-pending application 09/726,826 in view of Kummel.

Claims 6-15 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting over claims 1-12 of co-pending application No. 09/842,224 in view of Kummel.

Before discussing the cited prior art and the Examiner's rejections of the claims in view of that art, a brief summary of the present invention is appropriate. The present invention relates to a gasifier for gasification of carbon-containing fuel, residual and waste material in a reaction chamber 1. The contour of the reactor chamber 1 is delimited by a cooled reactor wall having inlet opening 2 and outlet opening 8 (see page 5, lines 17-21 of the specification). As shown in Fig. 1, the cooled reactor wall includes a pressure shell 3 surrounding a cooling wall 4 with a water-cooled cooling gap 5 defined between the pressure shell 3 and the cooling wall 4. A ceramic protection layer 6 for the cooling wall 4 is arranged on a side of the cooling wall facing the cooling gap (see page 6, lines 8-10 and Fig. 1). A layer of slag and/or a refractory lining 7 may be arranged on the side of the cooling wall 4 facing the reaction chamber 1 (page 5, lines 1-3 and page 6, lines 12-26). As shown in Fig. 1, the pressure shell 3 and the cooling wall are connected only at the inlet opening 2 and the outlet opening 8.

Independent claims 6 and 7 have been amended to clarify that the cooling wall is arranged inside the pressure shell and that the ceramic protection for the cooling wall is on a side of the cooling wall facing the cooling gap. This limitation is shown in Fig. 1. Independent claim 6 is further amended to clarify that the layer of slag is on an internal surface of the cooling wall. Independent claim 7 is amended to clarify that the refractory lining is on the internal surface of the cooling wall.

Rejection of claims 6-7 and 12-15 as obvious over Gudymov in view of Kummel

Gudymov fails to disclose an appliance for gasification having a pressure shell and a cooling wall, wherein the cooling wall includes a ceramic protection for the cooling wall on the side of the cooling wall facing a cooling gap between the pressure shell and the cooling wall. Gudymov shows a cooling wall for a reaction chamber which includes two sheets of sheet metal 1, 2 or two pipe sections 3, 4; 5, 6 separated by a space. The sheets 1, 2 or pipes 3, 4; 5, 6 are interconnected by bolts 7. A lining material 19 is arranged on an inner side of the inner one of the sheets 1 or pipe sections 3, 5. Further bolts 8 are connected between the lining material and the space between the sheets 1,2 or pipe sections 3, 4; 5, 6. Each of the bolts is welded in place. The Examiner states that the outer one of the sheet 2, or pipe sections 4, 6 is the pressure shell and that the inner one of the sheet 1 or pipe sections 3, 5 is the cooling wall. However, there is no teaching or suggestion of the ceramic protection on the side of the cooling wall facing the cooling gap, as expressly recited in independent claims 6 and 7. The claimed ceramic protection of the present invention affords protection from corrosion. The requirement for such protection is not contemplated by Gudymov because Gudymov uses the same materials for both the inner and outer sheets 1,2 or pipe sections 3, 4; 5, 6. These materials are designed to be impervious to corrosion. The use of the claimed ceramic protection allows the cooling wall 4 of the present invention to be made of any material suited for the its purpose of providing insulation.

Kummel also fails to teach or suggest an appliance for gasification having a pressure shell and a cooling wall, wherein the cooling wall includes a ceramic protection for the cooling wall on the side of the cooling wall facing a cooling gap between the pressure shell and the cooling wall. In contrast to the claimed invention, Kummel discloses a gasification chamber 2 with a cooling wall 1 which surrounds the gasification chamber 2, wherein the cooling wall 1 includes a plurality of

vertical tubes 37 connected between rings 4, 5. As shown in Fig. 3, the tube wall includes vertical webs 38 connected between the tubes by welding to form a gas tight wall. As described in col. 4, lines 23-25 of Kummel, a ceramic coating is sprayed on the inner side, i.e., the gas chamber side of the cooling wall. There is no reason to place a ceramic coating on the outer side because there is no water-cooled cooling gap in the device disclosed by Kummel. The cooling spaces in Kummel are delimited by the pipes 37. Accordingly, the combination of Gudymov and Kummel fails to teach or suggest the claimed ceramic protection for the cooling wall on the side of the cooling wall facing a cooling gap between the pressure shell and the cooling wall, as now expressly recited in independent claims 6 and 7.

In view of the above amendments and remarks, it is respectfully submitted that independent claims 6 and 7 are allowable over Gudymov in view of Kummel.

Rejection of claims 6-15 as unpatentable over 09/726,826 or 09/842,224 in view of Kummel

Both disclosures of 09/726,828 and 09/842,224 disclose gasifiers in which cooling channels are arranged on an outer side of a wall delimiting the reaction chamber. Neither of these teach or suggest a ceramic protection as recited in independent claims 6 and 7. As described above, independent claims 6 and 7 have been amended to clarify that the ceramic protection is arranged on a side of the cooling wall facing the cooling gap. As also described above, Kummel fails to teach or suggest a ceramic protection on a side of the cooling wall facing the cooling gap. Accordingly, it is respectfully submitted that independent claims 6 and 7 are allowable over 09/726,828 or 09/842,224 in view of Kummel.

Dependent claims 8-17, each being dependent on one of independent claims 6 and 7, are deemed allowable for the same reasons expressed above with respect to independent claims 6 and 7.

New dependent claims 16 and 17 further recite that the pressure shell is connected to the cooling wall only at the input opening and the output opening of the reaction chamber. This is clearly not disclosed in any of the references. Gudymov discloses that the outer shell is connected to the inner shell by many bolts. Kummel fails to disclose an outer shell because the cooling medium flows through tubes and not through a cooling gap between a pressure shell and the cooling wall. Likewise, 09/726,828 and 09/842,224 also fails to disclose a separate pressure shell and cooling wall connected only at the input and output to the reaction chamber. Accordingly, it is respectfully submitted that dependent claims 16 and 17 are allowable for these additional reasons.

The application is now deemed to be in condition for allowance and notice to that effect is solicited.

Respectfully submitted,

COHEN, PONTANI, LIEBERMAN & PAVANE

By _____

Thomas C. Pontani
Reg. No. 29,763
551 Fifth Avenue, Suite 1210
New York, New York 10176
(212) 687-2770

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